
This is an electronic reprint of the original article.
This reprint may differ from the original in pagination and typographic detail.

Author(s): Tuulos, Tiina & Vainio, Meri & Taajamaa, Ville
Title: The role of an external facilitator in developing new co-creation platforms in university education
Year: 2016
Version: Final published version

Please cite the original version:

Tuulos, Tiina & Vainio, Meri & Taajamaa, Ville. 2016. The role of an external facilitator in developing new co-creation platforms in university education. 44th SEFI Conference, 12-15 September 2016, Tampere, Finland. 9.

Rights: © 2016 SEFI. This is the accepted version of the following article: Tuulos, Tiina & Vainio, Meri & Taajamaa, Ville. 2016. The role of an external facilitator in developing new co-creation platforms in university education. 44th SEFI Conference, 12-15 September 2016, Tampere, Finland. 9.
<https://www.conftool.pro/sefi2016/sessions.php>

The role of an external facilitator in developing new co-creation platforms in university education

T. Tuulos¹

Project Manager
Aalto University Design Factory
Espoo, Finland
tiina.tuulos@aalto.fi

M. Vainio

DF Coach
Aalto University Design Factory
Espoo, Finland
meri.vainio@gmail.com

V. Taajamaa

Project Manager
University of Turku
Turku, Finland
ville.taajamaa@utu.fi

Conference Key Areas: Continuing Engineering Education and Lifelong Learning, I feel brilliant

Keywords: Educational development, facilitator, change agency, practices

INTRODUCTION

Previous studies suggest that change in education is often initiated with the recruitment of an external facilitator, faculty with industry experience or newly hired faculty replacing those retiring [1,2]. The main interests of this study are twofold: what role does an external facilitator have in a change process and to discuss whether new development should be initiated, sustained and facilitated from within the organization or by an external change agent.

This paper relies on two case studies, one in Austria and one China. Firstly, a case study on an environment supporting an interdisciplinary product development course hosted by a University of Technology in Austria. And secondly, a case study of Sino-Finnish Centre, a collaboration platform between a Finnish and Chinese university. The aims of both cases were essentially similar: to create new practices, a collaborative learning environment and more student-centric culture based on an

¹ Corresponding Author
T. Tuulos
tiina.tuulos@aalto.fi

existing experiential learning platform. In both the change was initiated with a recruitment of an external facilitator. However, the starting points varied significantly: in China the intention was to form a formal strategic partnership between the two universities and the new platform was supposed to be the tangible collaboration environment, whereas in Austria the interest was to create a more student-centric and vibrant atmosphere and a supporting environment around an interdisciplinary product development course.

The exemplary learning environment that both case universities were familiar with is an experiential learning platform in Finland called the Aalto Design Factory (later ADF): *“Aalto Design Factory aims to provide a physical as well as a mental environment designed for supporting interdisciplinary learning and co-creation. ADF is intended to function as a platform for experimental problem-based learning to promote better learning outcomes as well as enable experiments in industry-university collaboration. It provides a non-hierarchical, constantly developing collaboration environment for students, teachers, researchers and business practitioners across hierarchical, professional, and disciplinary boundaries.”* [3, p .4].

Following the Aalto Design Factory’s model, experiential learning platforms have been tested and implemented in several countries around the globe. The two cases, Austria and China, introduce two different approaches in initiating the change and transferring new practices and experiential learning culture to new locations. These cases are briefly presented in this chapter together with the main theories.

1.1 Requirements for an educational change process

Educational change and development report by Graham [1] state that there is an on-going development towards experience led engineering education. Although the Graham [1] report focused in engineering education, many of the phenomena can be abstracted to university education in general. Experience led education is a variation of progressive teaching methods mainly based on experiential learning [4,5]. In practice this means project-, design- and problem-based teaching methods in the courses. This is also the fundamental educational and teaching method approach used at ADF. [6,7]

Concerning university level educational change the question “*how*” reform is achieved in addition to the questions “*what*” and “*why*” is crucial. One of the main statements is that education in general needs to be able to continuously change and develop to meet the needs of the global and local society, and industry [1]. The conditions where systemic change is successfully and sustainably initiated are context driven and there is usually one or several factors influencing such as an external threat, external facilitator initiating change, change leader with experience, change embedded to the curriculum structure or a committed department head [1]. In order to success in change endeavours faculty needs to believe that the change efforts are valued and that the reform work will lead to promotions and rewards [8].

The main caveat’s of educational change are firstly the lack of dissemination of practices across departmental boundaries and secondly simply the fact that sustaining change is difficult. There is a tendency of returning to the way things were before. [1]. Graham [1] list factors that help the reform processes to sustain even against time and unexpected changes: The faculty is committed widely and they participate in the teaching of the new courses, educational redesign, reinvention and innovation of the curriculum is systematic and on-going, and the impact of the change is evaluated and well communicated.

1.2 Structures create barriers for the use of new space and new practices

The hierarchical structures, which maintain the status quo, are based on the traditional model of teaching and learning [8,9]. With time, institutions can be re-transformed, when actors in the space socialize with each other, adapt certain behaviors and assign meanings to the space [10]. However, these patterns of working are not easy to change or facilitate. The risen focus on student-centeredness and the change in faculty- and teacher-student relationship has however challenged this traditional view and caused an increased interest towards new spatial solutions. This hierarchical structure and traditional status quos need to be abandoned in order to afford new and genuine interaction [8] and student-centric culture. A new physical environment is not however enough, we also need new practices and to change our ways of working. These can be only achieved when we see examples of new practices and we dare to start acting differently.

1.3 Promoters needed for innovation

As shown above carrying out successful innovations need facilitators of change and promoters on different levels. Hauschildt [11] has categorized promoters based on function (see figure 1): Power promotor is someone who can give resources and mandate from above, the technology promotor shares his or her specialist knowledge and expertise to the process and the process promotor is someone who brings people together and combines the different interests towards the mutual goal [11].

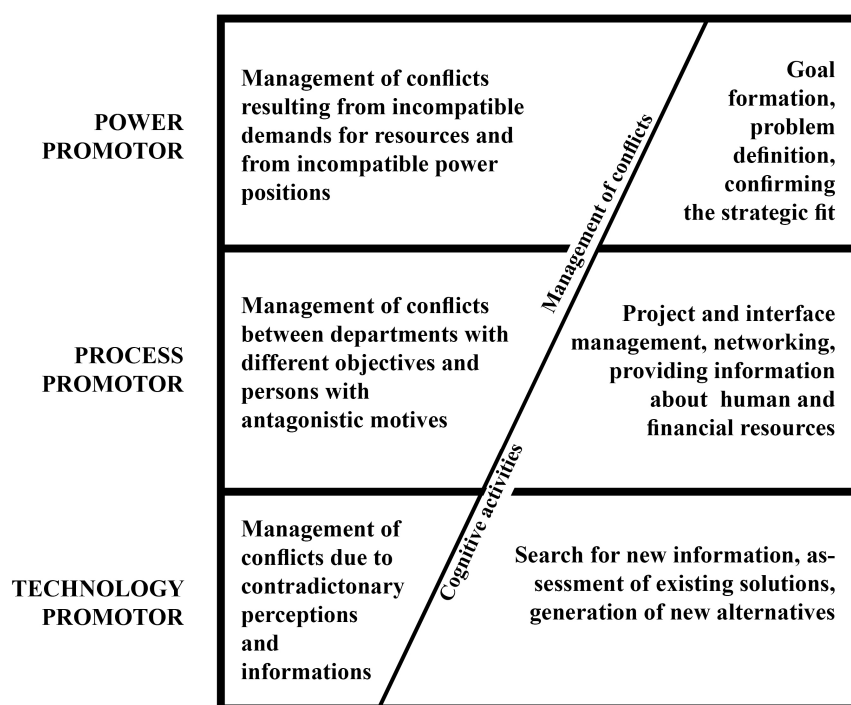


Fig. 1. Roles needed in successful innovations processes [11, p. 808]

In developing new co-creation platforms and transforming traditional education we see the role of the process promotor especially important. Process promotor is the everyday facilitator of change and in order to bring people together, participate conversations and share information people need to trust the promotor. "You have to build trust and be there and sometimes you have to be there more than what you normally would be there just to be able to build that, you know, that you are there as a resource, that they can trust that you're going to get things done." [12, p. 989]. In addition, in order to achieve change new practices need to be introduced and

legitimized. However, change agents do not come up with totally different ways of working or actions, since they would be too far from the existing habits and be unfamiliar to the other participants [13].

1.4 TU Graz and Tongji University as case examples

In this section we describe the starting point of the both Design Factory inspired projects: case Design Loft in TU Graz and Sino-Finnish Centre in Tongji University.

The Product Innovation Project (later PIP) course in TU Graz has been inspired by an interdisciplinary and problem-based product development course in Aalto University and introduced to TU Graz first time in 2006. The course had run with 1-2 projects since then, until in Spring 2013 the professor of the course saw a possibility to develop the course activities and expand the course. The course got a designated office space and the plan was to redesign it to host and support the activities.

Knowing how student-centric culture and project-based learning was supported in ADF, the professor asked for help from ADF to set up the new learning environment. The professor expressed how there was a need to create *more buzz* and *Design Factory kind of spirit* to the PIP learning experience. The aim was to transform a traditional engineering centered product development course with the help of a new physical space into a more collaborative and student-centric and more appealing to students. The collaboration started very organically as a facilitator from ADF left to Austria to help with the development and conduct research of the new activities. This was the starting point for the practical implementations at TU Graz.

Aalto-Tongji Design Factory, established in 2010, was a pilot project of new learning culture in China and the starting point for a university level cooperation between Aalto and Tongji Universities. In the beginning the goal was to serve as the platform for cooperation built around product design and innovation. The original partnership between Aalto and Tongji involved a common agreement, which meant shared resources and assigned personnel from both parties. The partnership was defined in the agreement as a strategic partnership and can be considered to be a skills-transfer joint venture where Aalto University is providing know-how, knowledge and experience, and Tongji University provides equipment, administrative service support and knowledge of the local culture [14].

Aalto-Tongji Design Factory was built to transfer the best practices from ADF to Tongji University through people, space, and educational activities. An external project team was sent from Aalto to Tongji to build the physical environment and start the educational programs. The development of the new learning space was facilitated by an Aalto University staff member acting as the daily manager, facilitator, and process promotor. Since then, 1-2 facilitators and process promotors were sent from Aalto to facilitate the development in Tongji. Together with the facilitators Aalto and Tongji staff members, with a necessary hierarchical status in the university, supported the development process.

2 METHODS AND DATA

In the case of TU Graz the research was qualitative and participatory action research was used as the way to approach the development challenge and data collection. The role of the action researcher can be described as a helper, consultant or facilitator [15] who is involved in the change process, takes action and creates knowledge about that action [16,17]. The data consists of field notes collected during an intensive three-month development period in the end of 2013 and semi-structured open interviews conducted with nine main stakeholders in April 2014. The data was

categorized to recurring topics related to physical, social or mental space. The answers from students (later S) and faculty (later F) were kept separate. Field notes were used to supplement the recurring topics arising from the interviews.

In the case Tongji the researcher took an applied grounded theory approach. Grounded theory approach was selected to guide the data collection and analysis, because it proposes explicit guidelines for theorizing from data [18] and the study has the potential to develop and refine theoretically relevant concepts leading to a better understanding of the multicultural multilevel partnership [19]. The research method is also applying the participatory action research, since the researcher had an identified role as a part of the studied society and was actively participating in the activities as an external facilitator.

The material from Tongji University consists of archival data, documentations and individuals' perceptions of the emerged situation. Key data is qualitative, and collected through observation and interviewing people tangibly involved in the platform, staff members and students. Observation data and 15 interviews were collected iteratively and systematically during the years 2013 and 2014.

3 RESULTS

The results indicate that an external facilitator, as an outsider who is not fixated with the norms and practices of the current organization, can be a significant catalyst in driving change. In both cases it proved to be important to have someone with the ability and motivation to dedicate time for coordinating the new activities, willingness to interact with different stakeholders and the capability to adapt to several roles when introducing new practices to an educational context. The study depicts advantages of pushing change as an outsider who is not embedded in the organization, but also downsides stemming from issues such as lacking tacit knowledge and insider information.

3.1 External facilitator wearing different hats in TU Graz

In the case of TU Graz, the external change agent was seen to have several roles in looking after the physical space, coordinating activities, being an expert in creating a new environment for experiential learning, taking care of the practicalities and the atmosphere of the course, and being a communicator between the students and the staff. Most importantly, the change agent was a process promotor, a person bringing people together and sharing information between different stakeholders.

"...it was also very fine when you (referring to the facilitator) came to the Loft and you were here and you had someone to talk with, it was, you made it more angenehm (comfortable) [...] It was anything that through these events you brought people together, that you brought them together to talk with each other." (S3)

It was also seen valuable to have someone with extra resources for development, someone who is interested in the change process, and can invest all her time to it. The local faculty felt that it was beneficial that the facilitator had expertise from another institute than TU Graz and was not tied in the daily administrative challenges and routines of the institution.

"I mean with the special person for the PIP, it's not a traditional university staff. You have different responsibilities as traditional staff of university assistant." (F3)

"...you have more experience, you really know how Design Factory is working so for you it was easier to do some initiatives here." (F1)

The facilitator was put into different roles: on the other hand sharing information and advising the faculty and on the other hand being a coach and listener for the students.

“...you had different roles. One of them was helping us as supervisor team [...] helped us to organize and to have the regular supervisor meetings and how to deal with different problems [...] you were also a kind of family member for the teams, and you were little like between the teams and us.” (F1)

Both the students and the faculty felt that the student teams talked more about their challenges and failures in the project with the facilitator, who was often available at the Design Loft, not involved in evaluating the students' work, and was able to invest time. The traditional professional relationship between the students and the faculty was found to be a barrier for the communication.

“...it's more a little bit of distance. Since they (referring to the faculty) give you the grades and they are the responsible people for this project. You (students) talked a little bit in a different way with the people from the institute than with you (referring to the facilitator) [...] And also if we needed help or anything you always were there...” (S3)

After the external facilitator left, the faculty felt that they lost the connection to the students a bit due to the lack facilitated interaction and community events. The staff did not spend that much time at the Design Loft, where before the facilitator had been able to observe what the students are doing, help them, and answer their questions, and again bring these questions and concerns up in the faculty meetings.

3.2 Facilitator supporting change in Aalto-Tongji Design Factory

In case China, cooperation happened in many forms and, therefore, promoters were needed on multiple levels in the organization. The organizational structures and roles were defined in the original agreement on a very detailed level. Creating an organization with operators and hierarchical statuses on multiple levels was following the predefined model of international center in the case University.

During the 5 years of operation, there were few changes on the operational level. Four external facilitators worked alone or with a partner, but changes in external facilitators did not affect the daily operations. At the same time, changes on the leadership level were found to have an effect to future development. The lack of one key person, the power promoter, caused the continuity and communication to come to a halt. With the common vision and goals missing, the different cultural values and norms created diversion. Relevant actors moved further from each other and towards their own goals and the staff was not able to get the needed support for making change and creating the new learning culture.

“Considering that first Sino-Finnish Centre employees were hired once the SFC was officially established, not many people have seen the ATDF manifestations” (SFC Project Manager)

This was not found, however, to affect the student level experiences. Students were asked about their experiences and the value of Design Factory in their studies in China, and both local and foreign students reported only positive experiences of the Design Factory. For exchange students, the space and facilitation lowered the threshold to enter a new culture.

“Without ATDF it would have been more difficult to enter China” (Aalto exchange student).

Tongji did not offer any interdisciplinary courses that would teach brainstorming or idea generation techniques, not to mention team-working skills, and therefore new courses were arranged in the field of product design and innovation. During the first two years, major part of the courses were taught and facilitated by Aalto faculty.

“Even though everything seemed unfinished in ATDF, the courses were arranged for exchange students to study there” (Aalto exchange student).

Courses were offered to both local and foreign students thus making the atmosphere international and something different to a traditional classroom. Local students were found to come to the space because it offered opportunities for working together with international students and to get interdisciplinary teamwork experience. Both students and faculty referred Design Factory as international place where there are nice furniture, interesting courses and interesting people. For Chinese students, the space was *“the best place to study ever”* (SFC student).

“Compared to Tongji University other schools and spaces, SFC is offering an inspiring atmosphere to study” (Aalto exchange student).

“... [Design Factory] is a unique, open, and stimulating environment that is making it easy to enter China; it offers good vibes and great variety of crazy people; and there is the Sauna” (Aalto faculty).

4 DISCUSSION

The aim of this study was to research what roles does an external facilitator or a process promotor has in a development of new co-creation platforms. The main finding was that a change agent is able to bring new perspective, practices and motivation towards the change process. However, the process promotor cannot facilitate the change alone. Tight connections to the top-level power promotor are needed in order to build sustainable basis and continuity for development. In ideal case both top-level power promotor and process promotor involved in everyday practices could work together as a team to introduce new ways of working and eventually change the practices.

Every change needs an initiator and a primus motor. Surely organization's ways of working do not change if just one person changes his or her routines. The results, however, show that there are advantages in having an external actor in the process. This is also supported by previous research [1]. The most important thing is that the people driving change and new practices are engaged and committed. They are the ones who convey new meanings through their activities. For some this jester behaviour can be confusing, but if people are open for change, they might openly welcome new ways of working and ideas from the external facilitator.

In China both researchers and faculty utilized the international collaboration platform to learn from China and increase their intercultural competence. Before Aalto-Tongji Design Factory was established, Tongji and China had very little visibility inside Aalto University. The change agent coming from Aalto acted also as a process facilitator between the two universities to facilitate and maintain the discussion and utilize the platform to make actual collaboration possible. One challenge that concerns both universities is how to measure the intercultural competence of students and staff who have participated on exchange, double degree program or joint projects. This could be of future research interest.

Concerning the challenges of sustaining change and to developing both case platforms further one emerging question is what kind of supporting systems, steering groups, and strategic plans people would need for facilitating change and adapting

new practices. Students are usually integrated to a project or a course for a short period of time whereas the faculty has a long-term view on the development. It is important to have people who keep passing on the wanted practices and behavior and by showing example pass on the ways of working to the next generation of students. In Aalto-Tongji Design Factory, the coaches were possible to hire amongst the Aalto students doing their exchange in China, and that way passing their knowledge to the patch of new entering students. However, still, the Design Factory was lacking of experienced external actors.

As previous research shows, e.g. [5], courses of experiential learning differ from traditional lectures, as the teachers are coaches and facilitators of the learning process. Teachers are not just interacting with the students during a lecture, but actually involved and available also outside of the classroom. This transformation requires new practices, ways of working and learning environments.

The authors acknowledge the acute need for further research now that two to three years has passed from the original case studies. In both cases there were clear successes and evident challenge of sustaining change. This correlates strongly with the literature [1]. Longitudinal case research could prove very useful especially in finding how the role of a change facilitator evolves and if it could be passed on to the actors in the local context. At the higher level national and local cultures should be in the focus of research and at the context level organizational theories together with educational development theories could prove very useful in shedding light on the phenomena of international, collaborative and progressive higher education.

REFERENCES

- [1] Graham, R. (2012). The Royal Academy of Engineering, Achieving excellence in engineering education: the ingredients of successful change, *The Royal Academy of Engineering*
- [2] Crawley, E. F., Malmqvist J., Östlund S., Brodeur D. R. & Edström K. (2014). *Rethinking Engineering Education, The CDIO Approach*, Second Edition, Springer.
- [3] Björklund, T., Clavert, M., Kirjavainen, S., Laakso, M., & Luukkonen, S. (2011). Aalto University Design Factory in the eyes of its community. Espoo.
- [4] Dewey, J. (1938). *Education and experience*. (S. and Schuster, Ed.). New York.
- [5] Kolb, A. Y. & Kolb, D. A. (2005). Learning Styles and Learning Spaces : Enhancing Experiential Learning in Higher Education. *Academy of Management Learning & Education*, 4(2), 193–212.
- [6] Rautavaara E., Taajamaa V., Lyytikäinen V. & Salakoski T. (2014). Learning outcomes of a project-based capstone product development course, *Norddesign Conference 2014, Finland*
- [7] Graaff, E. & Kolmos, A. (2003). Characteristics of Problem-Based Learning, *Int. J. Engng Ed.* 19(5), 657-662.
- [8] Bickford, D. J. (2002). Navigating the white waters of collaborative work in

shaping learning environments. *New Directions for Teaching and Learning*, 92, 43–52.

- [9] Hebdige, D. (1979). *Subculture: Meaning of Style*. Florence, KY: Routledge.
- Hensmans, M. (2003). Social Movement Organizations: A Metaphor for Strategic Actors in Institutional Fields, 24(3), 355–381.
- [10] Zilber, T. B. (2002). Institutionalization as an interplay between actions, meanings, and actors: The case of a rape crisis center in Israel. *Academy of Management Journal*, 45(1), 234–254.
- [11] Hauschildt, J. (2003). Promoters and Champions in Innovations: Development of a Research Paradigm. In L. V. Shavinina (Ed.), *The International Handbook on Innovation* (pp. 804–811). Kidlington (UK): Elsevier Science Ltd.
- [12] Reay, T., Golden-Biddle, K. & Germann, K. (2006). Legitimizing a new role: Small wins and microprocesses of change. *Academy of Management Journal*, 49(5), 977–998.
- [13] Seo, M.-G. & Creed, W. E. D. (2002). Institutional Contradictions, and Institutional Change: A Dialectical Perspective. *Management*, 27(2), 222–247.
- [14] Sino-Finnish Centre. (2010) Cooperation Agreement for the establishment of Sino-Finnish Centre at Tongji University between Tongji University and Aalto University, Finland. Shanghai: Tongji University
- [15] Gummesson, E. (2000). *Qualitative Methods in Management Research* (2nd ed.). Thousand Oaks, CA: SAGE Publications Ltd.
- [16] Coughlan, P. & Coughlan, D. (2002). Action research for operations management. *International Journal of Operations & Production Management*, 22(2), 220–240.
- [17] Reason, P. & Bradbury, H. (2006). *The Handbook of Action Research. The Handbook of Action Research - Concise Paperback Edition*. SAGE Publications.
- [18] Charmaz, K. (2008). Reconstructing grounded theory. *The SAGE handbook of social research methods*. Los Angeles: Sage, 461-78.
- [19] Strauss, A., & Corbin, J. (1990) Basics of qualitative research: Grounded theory procedures and techniques. Newbury Park, CA: Sage Publications, Inc.